Year 7 1B Curriculum Map

Year 7

Half Term 1

To do this you must know the meaning of a whole number, even, odd and consecutive numbers as well as basic addition, subtraction and multiplication.

Unit 1 Positive Integers

1.1 Place value and rounding
1.2 Addition
1.3 Subtraction
1.4 Multiplication
1.5 Division
1.6 Squares, cubes, square roots and cube roots
1.7 Order of operations
1.8 Factors and Multiples

To do this you must be able to work with positive integers and know how to apply the order of operations.

Unit 2 Negative Integers

2.1 Negative numbers and the number line
2.2 Addition and subtraction of integers
2.3 Multiplication, division and combined operations of integers

Half Term 2

To do this you must be able to use the four operations, know how to apply the order of operations, calculate with square and cubes numbers.

Unit 3 Introduction to Algebra

3.1 Letters to represent numbers
3.2 Substituting numbers for letters
3.3 Writing algebraic expressions and formulae
3.4 Like terms and unlike terms
3.5 Addition and subtraction of linear expressions

To do this you must be able to use the four operations, know what an algebraic expression and formulae are as well as substitute into them.

Unit 4 Simple Equations

4.1 Equations in one variable
4.2 Writing equations to solve problems

Half Term 3

Unit 5 Fractions

5.1 Quantities as fractions
5.2 Equivalent and comparing fractions
5.3 Addition and subtraction of fractions and mixed numbers
5.4 Multiplication of fractions
5.5 Division of fractions
5.6 Rational numbers and using a calculator

To do this you must know what a fraction is and know how to work with multiples and factors.

Unit 6 Decimals

6.1 Place value, ordering and rounding decimals
6.2 Addition and subtraction of decimals
6.3 Multiplication of decimals
6.4 Division of decimals by a whole number
6.5 Mental calculation and conversion between units
6.6 Division of decimals by decimals
6.7 Rational numbers and real numbers

To do this you must be able to understand place value, apply the four operations and know how to round numbers.

Half Term 4

To do this you must be able to apply the four operations to fractions and decimals.

Unit 7 Percentages

7.1 Meaning of percentages
7.2 Percentages of a quantity
7.3 Reducing and increased a quantity by a percentage

Half Term 5

To do this you must know how to measure angles, know basic angle facts and understand the meaning of a plane, line and line segments.

Unit 8 Angles, Parallel Lines and Triangles

8.1 Points, lines and planes
8. 2 Angles
8.3 Parallel lines and transversals
8.4 Triangles

Unit 9 Transformations, Symmetry and Congruence

9.1 Transformations
9.2 Symmetry
9.3 Congruence

To do this you must be able to understand key properties of shapes, angles, perpendicular lines and the sum of angles in a triangle.

Unit 10 Perimeter and Area of Triangles and Circles

10.1 Perimeter and area of a triangle
10.2 Circumference of a circle
10.3 Area of a circle
10.4 Perimeter and area problems

To do this you must be able to find the area and perimeter of a square and rectangle, know the properties of perpendicular lines and different types of triangles.

Half Term 6

Unit 11 Volume and Surface Area of Cuboids, including Cubes

11.1 Nets of cuboids, including cubes
11.2 Surface Area of cuboids, including cubes
11.3 Volume of cuboids, including cubes

To do this you must know the properties of a square and rectangle as well as calculate with square, cubes and their roots.
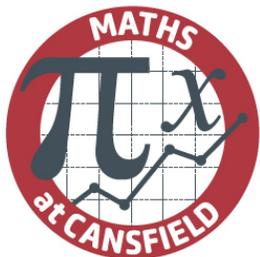
Unit 12 Collecting, Organising and Displaying Data

12.1 Collection of data
12.2 Organisation of data
12.3 Pictograms, vertical line charts and bar charts

To do this you must be able to calculate with percentages and use inequalities.

Year 8

MATHS at CANSFIELD

Year 7 1A Curriculum Map

Year 7

To do this you must know the place value chart and be able to add and subtract two digit numbers.

Half Term 1

1.1 Value and order of numbers
1.2 Addition
1.3 Subtraction
1.4 Mental calculation of addition and subtraction

Unit 1 Adding and Subtracting Whole Numbers

To do this you must be able to add and subtract numbers, understand the inverse relationship and know my times tables.

2.1 Multiplication
2.2 Division
2.3 Mental calculations of multiplication and division
2.4 Factors, multiples and prime numbers

Unit 2 Multiplying and Dividing Whole Numbers

Half Term 2

To do this you must be able to use place value, a number line and perform different types of calculations.

3.1 Rounding numbers
3.2 Estimation
3.3 Order of operations
3.4 Using a calculator

Unit 3 Calculations

To do this you must be able to perform different types of calculations and know the order of operations.

4.1 Use of letters to represent numbers
4.2 Simple substitution of letter for numbers

Unit 4 Use of Letters

Half Term 3

5.1 Idea of fractions
5.2 Improper fractions and mixed numbers
5.3 Equivalent fractions
5.4 Comparing fractions
5.5 Fractions of quantities

Unit 5 Understanding Fractions

To do this you must be able to use a number line, perform different types of calculations and know how to use factors and multiples.

6.1 Decimal place values
6.2 Conversion between fractions and decimals
6.3 Multiplying and dividing by 10, 100 and 1000
6.4 Introducing percentages
6.5 Percentages of quantities

Unit 6 Tenths, Hundredths and Thousandths

To do this you must be able to understand fractions, place value and use all calculations.

7.1 Idea of ratio
7.2 Relationships between ratios and fractions
7.3 Equivalent ratios

Unit 7 Introduction of ratio

Half Term 4

To do this you must be able to understand fractions, factors and be able to use all calculations.

8.1 Introduction of angles
8. 2 Types of angles
8.3 Unknown angles

Unit 8 Measures and Angles

Half Term 5

To do this you must be able to understand directions, multiples, inverse relationships, lines, angles and estimation.

9.1 Line symmetry of plane figures
9.2 Rotational symmetry of plane figures

Unit 9 Symmetry

To do this you must be able to understand key properties of shapes, angles and use all calculation.

10.1 Perimeter of squares and rectangles
10.2 Area of squares and rectangles
10.3 Perimeter and area of triangles

Unit 10 Perimeter and Area of Rectangles, Squares and Triangles

To do this you must be able to use all calculations, fractions, letters, perpendicular lines and know different types of triangles.

Half Term 6

11.1 Nets of cuboids, including cubes
11.2 Surface Area of cuboids, including cubes
11.3 Volume of cuboids, including cubes

Unit 11 Volume and Surface Area of Cuboids, including Cubes

*To do this you must be able to use all calculations, letters and know how to find the perimeter and area of shapes.*

12.1 Collecting, classifying and tabulating data
12.2 Pictograms, vertical line charts and bar charts

Unit 12 Collecting, Organising and Displaying Data

To do this you must be able to use all calculations, letters, inequalities, fractions, percentages and ratio.

Year 8

MATHS at CANSFIELD

Year 8 2A Curriculum Map
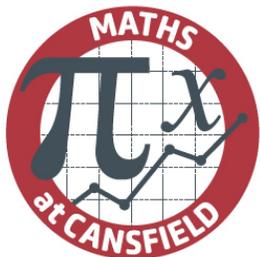
Year 8

To do this you must understand whole numbers, place value, expanded form and multiplying and dividing by 10, 100 and 1000.

Half Term 1

Unit 1 Integers
1.1 Place values
1.2 Integers
1.3 Number lines

Unit 2 The Four Operations on Integers
2.1 Addition and subtraction of integers
2.2 Multiplication and division of integers
2.3 Combined operations on integers
2.4 Rounding of integers
2.5 Squares and squares roots
2.6 Cubes and cubes roots

To do this you must understand inverse relationships, order of operations and rounding whole numbers.

Half Term 2

Unit 3 Fractions
3.1 Convert between improper and mixed
3.2 Compare fractions
3.3 Addition and subtraction of fractions
3.4 Multiplication of fractions
3.5 Division of fractions
3.6 Combined operations on fractions

To do this you must understand what a fraction, improper fractions and mixed numbers are, find factors and multiples and manipulate equivalent fractions.

Unit 4 Decimals
4.1 Place values of decimals
4.2 Conversion between fractions and decimals
4.3 Comparing fraction and decimals
4.4 Rounding decimals
4.5 Addition and subtraction of decimals
4.5 Addition and subtraction of decimals
4.6 Multiplication of decimals
4.7 Division of decimals
4.8 Combined operations on decimals

To do this you must understand place value, conversions between types of fractions, inequality notation, rounding integers, four operations on integers and order of operations.

Half Term 3

Unit 5 Ratio
5.1 Application of ratio
5.2 Ratio of three quantities
5.3 Map scales

To do this you must understand the idea of a ratio and how to use equivalent fractions.

Unit 6 Percentages
6.1 Percentages and quantities
6.2 Reverse percentages and value added tax
6.3 Percentage change

To do this you must understand what is meant by a percentage and find fractions of quantities.

Half Term 4

Unit 7 Algebra
7.1 Simple algebraic expressions and their representations
7.2 Like terms and unlike terms
7.3 Expansion of brackets
7.4 Formulating algebraic expressions
7.5 Evaluating algebraic expressions and formulae
7.6 Patterns, sequences and proof

To do this you must understand number discs, multiplying and dividing directed numbers, how to use letters to represent numbers and substitute.

Half Term 5

Unit 8 Equations and Inequalities in One Variable
8.1 Equations in one variable
8.2 Inequalities in one variable

To do this you must understand the four operations, represent numbers on number lines, apply inequality notation and work with fractions.

Unit 9 Angles and Parallel Lines
9.1 Properties of angles
9.2 Parallel lines and angle properties

To do this you must be able to label lines and angles with letters, know the rules for angles in a right angle, on a straight line and around a point.

Unit 10 Perimeters and Areas of Quadrilaterals and Circles
10.1 Perimeter and area of parallelograms
10.2 Perimeter and area of trapezia
10.3 Circumference and area of circles
10.4 Perimeter and area of composite shapes
10.5 Conversion of square units

To do this you must understand the meaning of area and perimeter, know special properties of quadrilaterals and triangles.

Half Term 6

Unit 11 Surface Area and Volume of Prisms and Cylinders
11.1 Nets of prisms and cylinders
11.2 Surface area and volume of prisms
11.3 Surface area and volume of cylinders
11.4 Conversion of cubic units

To do this you must understand how to find the area of basic 2D shapes, convert basic units, find the surface area of cubes and cuboids using their nets.

Unit 12 Statistical Graphs
12.1 Pie charts
12.2 Line graphs
12.3 Scatter graphs

To do this you must understand fractions and equivalent fractions, find percentages, basic statistical method and data and understand angle facts.

Year 9

MATHS at CANSFIELD
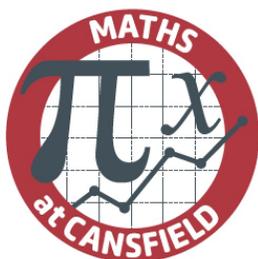
Year 8 2B Curriculum Map

Year 8

To do this you must know what whole numbers are and how to find factors and multiples.

Half Term 1

Unit 1 Factors and Multiples

1.1 Primes, prime factorisation and index notation
1.2 Highest Common Factor (HCF)
1.3 Lowest Common Multiple (LCM)
1.4 Square roots, cube roots and and prime factorisation

To do this you must be able to round whole numbers and calculate with all four operations involving fractions.

Unit 2 Approximation and Estimation

2.1 Rounding numbers to decimals
2.2 Rounding numbers to significant figures
2.3 Estimation

Half Term 2

To do this you must be able to manipulate equivalent fractions, write equations to solve problems and multiply and divide by powers of 10.

Unit 3 Ratio, Rate and Speed

3.1 Integer ratios
3.2 All kinds of ratios
3.3 Scale plans and maps
3.4 Rate
3.5 Speed

To do this you must be able to work with equivalent fractions and manipulate decimals.

Unit 4 More Percentages

4.1 Expressing a percentage as a fraction or a decimal
4.2 Simple percentage problems
4.3 Reverse percentages
4.4 Percentage increase and decrease

Half Term 3

Unit 5 Algebraic Expressions, Formulae and Proof

5.1 Use of letters in algebra
5.2 Evaluation of algebraic expressions and formulae
5.3 Algebraic expressions in the real world
5.4 Simplification of linear expressions
5.5 Proof

To do this you must be able to use index notation, the four operations, understand what makes an algebraic expression, collect like terms and add/subtract expressions.

Unit 6 Equations and Inequalities in One Variable

6.1 Simple linear equations in one variable
6.2 Equations involving brackets
6.3 Forming linear equations to solve problems
6.4 Simple inequalities

To do this you must be able to apply the four operations, manipulate expressions including expanding and solving basic equations.

Half Term 4

Unit 7 Coordinates and Linear Functions

7.1 Cartesian coordinate system
7.2 Idea of a function
7.3 Linear functions and their graphs
7.4 Gradients of linear graphs

To do this you must be able to represent numbers on a number line, use algebraic expressions, substitute and solve linear equations in one variable..

Half Term 5

Unit 8 Number Patterns

8.1 Number patterns and sequences
8.2 General term of a sequence

To do this you must be able to use algebraic expressions, substitute, use formulae and simplify algebraic expressions.

Unit 9 Angles in Quadrilaterals and Polygons

9.1 Quadrilaterals
9.2 Polygons

To do this you must be able to apply the rules for angles on parallel lines and angles in a triangle.

Unit 10 Perimeter and Area of Parallelograms and Trapezia

10.1 Area of Parallelograms
10.2 Area of trapezia
10.3 Perimeter and area of composite plane figures

To do this you must be able to calculate the area and perimeter of a square, rectangle and triangle, as well as calculate the area and circumference of a circle.

Half Term 6

Unit 11 Volume and Surface Area of Prisms and Cylinders

11.1 Views and nets of 3D shapes
11.2 Volume and total surface area of prisms
11.3 Volume and total surface area of cylinders
11.4 Volume and total surface area of composite prisms

To do this you must be able to calculate volume and surface area of cuboids, as well as calculate the area and circumference of sectors.

Unit 12 Statistical Graphs

12.1 Line graphs
12.2 Pie charts
12.3 Use and misuse of statistical graphs
12.4 Scatter graphs

To do this you must be able to measure angles, interpret pictograms and bar charts as well as find the equation of a line.

Year 9

Year 9 3A Curriculum Map
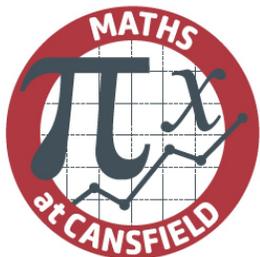
Year 9

To do this you must be able to find factors and multiples, calculate powers and multiply and divide by 10, 100 and 1000.

1.1 Prime factorisation, HCF and LCM
1.2 Index notation
1.3 Standard form
1.4 Solving problems involving standard form

Half Term 1

Unit 1 Indices, Prime Factorisation and Standard Form

To do this you must be able to use the four operations on numbers, know how to apply the order of operations, square and cube numbers.

2.1 Linear algebraic expressions
2.2 Adding and subtracting linear algebraic expressions
2.3 Expanding and simplifying linear algebraic expressions
2.4 Expansion of the product of two linear expressions
2.5 Factorisation of linear expressions

Unit 2 Algebraic Expressions and Manipulation

Half Term 2

To do this you must be able to apply the four operations on numbers, manipulate expressions including expanding and solving basic equations.

3.1 Solving linear equations
3.2 Manipulation of formulae

Unit 3 Linear Equations

To do this you must be able to represent numbers on a number line, use algebraic expressions, substitute and solve linear equations in one variable.

4.1 Cartesian coordinates in two dimensions
4.2 Graphs of linear functions
4.3 Gradients and intercepts of linear functions
4.4 Non-linear graphs

Unit 4 Functions and Graphs

Half Term 3

5.1 Direct proportion
5.2 Inverse proportion

Unit 5 Proportion

To do this you must be able to find the gradient of a line and understand the equation of a linear relationship.

8.1 Constructing triangles
8.2 Constructing perpendicular and angle bisectors
8.3 Constructing perpendicular lines

Unit 8 Geometric Constructions

Half Term 5

To do this you must be able to draw angles, identify special types of triangles, understand the meaning of perpendicular lines and draw parallel lines.

7.1 Triangles
7.2 Quadrilaterals
7.3 Polygons

Unit 7 Triangles, Quadrilaterals and Polygons

To do this you must be able to apply the rules for angles on parallel lines and angles in a triangle.

6.1 Rate and average rate
6.2 Exchange rate
6.3 Simple interest
6.4 Speed and average speed

Half Term 4

Unit 6 Rate and Speed

To do this you must be able to manipulate equivalent fractions, write equations to solve problems and multiply and divide by powers of 10.

9.1 Transformations
9.2 Congruent figures
9.3 Enlargement and scale factor
9.4 Similar figures

Unit 9 Congruency, Similarity and Enlargement

To do this you must know the definition of congruence, the hypotenuse, vertically opposite angles and know the properties of angles on parallel lines.

10.1 Pythagoras' theorem
10.2 Applications of Pythagoras' theorem

Unit 10 Pythagoras' Theorem

Half Term 6

To do this you must be able to work with squares and square roots, understand the properties of a right-angled triangle and find the area of a triangle.

11.1 Introduction to trigonometry
11.2 Finding unknown sides in right-angled triangles
11.3 Finding unknown angles in right-angled triangles

Unit 11 Trigonometry

To do this you must be able to apply Pythagoras' Theorem and know the properties of angles.

12.1 Mean
12.2 Median
12.3 Mode
**12.4** Range

Unit 12 Data Analysis

To do this you must be able to use frequency tables including grouped, draw and interpret bar charts and vertical line charts.

13.1 Probability of an event
13.2 Sample space diagrams
13.3 Sets and Venn diagrams

Unit 13 Probability and Sets

To do this you must be able to find multiples, factors, prime numbers and simplify fractions.

Year 10

MATHS at CANSFIELD

Year 9 3B Curriculum Map
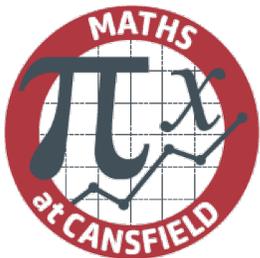
Year 9

To do this you must be able to multiply algebraic expressions, use index notation and multiply and divide by 10, 100 and 1000.

Half Term 1

1.1 Positive indices and laws of indices
1.2 Zero and negative indices
1.3 Standard form

Unit 1 Indices and Standard Form

To do this you must be able to find the gradient of a line and understand the equation of a linear relationship.

2.1 Direct proportion
2.2 Inverse proportion

Unit 2 Proportion

Half Term 2

To do this you must be able to solve linear equations, add and subtract linear expressions and find the equation of a line.

Unit 3 Linear Equations in two variables

3.1 Changing the subject of a formula
3.2 Linear Equations in two variables
3.3 Solving simultaneous equations in two variables by the graphical method
3.4 Solving simultaneous equations in two variables by the substitution method
3.5 Solving simultaneous equations in two variables by the elimination method

To do this you must be able to find prime factors and HCF, simplify expressions, add and subtract expressions and expand.

4.1 Factorisation by extracting common factors
4.2 Quadratic expressions
4.3 Expansion of the product of algebraic expressions

Unit 4 Factorisation and quadratic expressions

Half Term 3

5.1 Graphs for constant rates of change
5.2 Quadratic graphs
5.3 Exponential, reciprocal and piece-wise graphs

Unit 5 Non-linear Graphs

To do this I must be able to use a formulae, substitute, understand the coordinate plane , find the equation of a line and calculate speed.

7.1 Pythagoras' Theorem
7.2 Applying Pythagoras' Theorem to solve problems
7.3 Converse of Pythagoras' Theorem

6.1 Perpendicular bisectors, perpendicular lines and angle bisectors
6.2 Construction of triangles
6.3 Loci

Unit 6 Geometric Constructions and Loci

Half Term 4

To do this you must be able to draw angles, identify special types of triangles, understand perpendicular lines and draw parallel lines.

8.1 Congruent triangles
8.2 Similarity
8.3 Enlargement of plane figures
8.4 Scale drawings

Unit 8 Congruence, Similarity and Enlargement

Half Term 5

Unit 7 Pythagoras' Theorem

To do this you must know the definition of congruence, the hypotenuse, vertically opposite angles and know the properties of angles on parallel lines.

To do this you must be able to work with squares and square roots, understand the properties of a right-angled triangle and find the area of a triangle.

9.1 Trigonometric ratios and acute angles
9.2 Applying trigonometric ratios to find unknown sides in right angles triangles
9.3 Applying trigonometric ratios to find unknown angles in right angles triangles
9.4 Applying trigonometric ratios to solve problems
9.5 Bearings

Unit 9 Trigonometry and Bearings

To do this you must be able to apply Pythagoras' Theorem, know the properties of angles on parallel lines, understand map scales, convert units and measure reflex angles.

10.1 Pyramids
10.2 Cones

Unit 10 Surface Area of Pyramids and Cones

Half Term 6

To do this you must be able to apply Pythagoras' Theorem, find the area of a triangle, circle, sectors, find the circumference of a circle and parts of circles, find the surface area of a prim and cylinder.

11.1 Mean and range
11.2 Median
11.3 Mode

Unit 11 Data Analysis

To do this you must be able to use frequency tables including grouped, draw and interpret bar charts and vertical line charts.

12.1 Introducing probability
12.2 Probability of single events
12.3 Probability of simple combined events
12.4 Mutually exclusive events
12.5 Introducing sets
12.6 Sets and Venn diagrams

Unit 12 Probability and Sets

Year 10

To do this you must be able to find multiples, factors, prime numbers and simplify fractions.

MATHS at CANSFIELD